Stormwater Rulemaking

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Current Status of Stormwater Impacts

Much progress has been made; however, significant challenges remain to protect water bodies from impact of stormwater discharges.

According to the 2004 Water Quality Inventory, urban stormwater discharge is the source of problems in:

- 22,559 miles, or 9.2% of all impaired rivers and streams
- 701,024 acres, or 6.7% of all impaired lakes
- 867 square miles, or 11.3% of all impaired estuaries

NRC Report *Urban Stormwater Management in the United States (Oct. 08)*

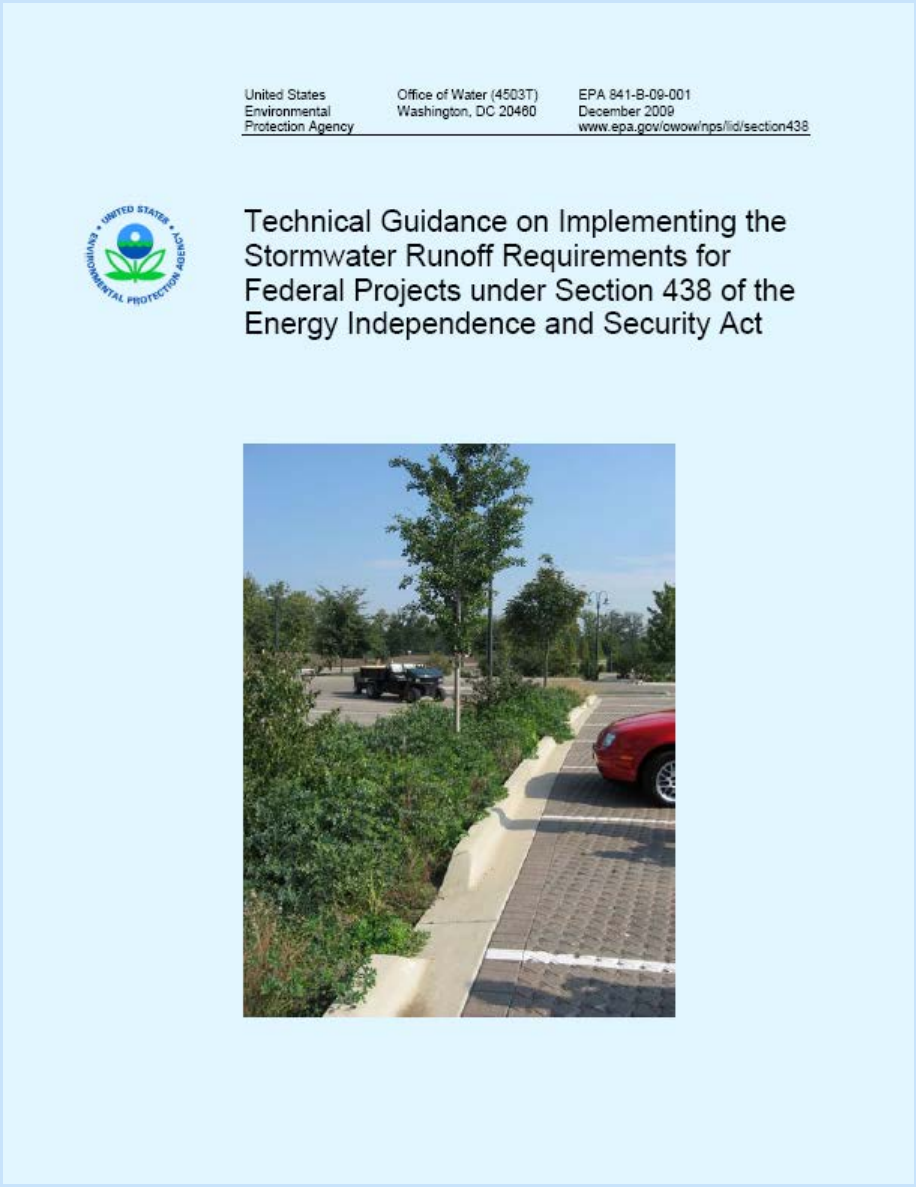
- Current approach unlikely to produce an accurate picture of the problem and unlikely to adequately control stormwater's contribution to waterbody impairment
- Requirements leave a great deal of discretion to dischargers to ensure compliance
- Poor accountability and uncertain effectiveness
- A more straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading

National Research Council 2008 Stormwater Study Recommendations

- Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading.
- Flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality.
- Stormwater control measures that harvest, infiltrate, and evapotranspirate stormwater are critical to reducing the volume and pollutant loading of small storms.

Energy Independence and Security Act of 2007

"**Sec. 438. Storm Water Runoff Requirements for Federal Development Projects.** The sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."



EPA, in consultation with the Interagency Sustainability Working Group and other federal agencies, developed Technical Guidance, issued December 2009

Green Infrastructure Implementation

- EPA's Green Infrastructure Initiative
  - Green Infrastructure Action Strategy
  - Green Infrastructure Partnership
- States are integrating green infrastructure principles into their permits
  - North Carolina - Montana - Maryland
  - New Jersey - Oregon - Wisconsin
  - Ohio - Connecticut - Kansas
  - West Virginia - Maine - Colorado
  - California - Vermont - Washington
  - Massachusetts - New York
- Communities are adopting green infrastructure approaches
  - Philadelphia, PA
  - Milwaukee, WI
  - Chicago, IL
  - Portland, OR
  - Seattle, WA
  - Kansas City, MO
  - Louisville, KY
  - Washington, DC
  - Richmond, VA

EPA Initiated Stormwater Rulemaking

- Impetus: The need to better protect water quality
- Published Federal Register notice describing rulemaking considerations, soliciting comment, and announcing listening sessions (Dec. 28, 2009)
- Schedule:
  - Proposal in Sept. 2011
  - Final Action in Nov. 2012

Key Activities to Date

- Conducted five listening sessions and national webcast (2,000 participants) Jan. – March 2010
- Distributed questionnaires to regulated MS4s, transportation-related MS4, unregulated MS4s, NPDES permitting authorities and owners/developers of developed sites to gather information (summer and fall 2010)
- Visits to states, localities, and sites located in the Northeast, Midwest, Southwest, Northwest and Southern California (fall 2010)
- Numerous meetings with various groups to discuss effort and gather input
- Monthly meetings with States

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Upcoming Key Activities

- Conducting Listening sessions in the Chesapeake Bay Watershed in October and November
- Meeting with local officials on December 9th and 16th
- Supplementing the Report to Congress submitted under CWA 402(p)(5)
- Input Survey data into models to estimate costs, impacts and benefits of control options

Rulemaking Considerations

- EPA is considering developing performance standards for discharges from new and redevelopment that promote green infrastructure practices that mimic natural processes to infiltrate and recharge, evapotranspire, and/or harvest and use precipitation.
- As part of this effort, EPA is also:
  - Exploring options for expanding the universe of federally regulated municipal separate storm sewer system (MS4s),
  - Exploring the desirability of establishing different requirements for transportation facilities,
  - Evaluating options for establishing retrofit requirements on MS4s,
  - Evaluating additional provisions specific to the Chesapeake Bay

Benefits of Stormwater Rule

- Proactively Protects Local Water Quality
  - Development and sprawl are increasing at a rate faster than population growth. Increased impervious cover associated with this development impacts water quality by increasing pollutant loadings and stormwater discharges that cause stream erosion.
  - EPA's rule seeks to get ahead of the curve and prevent these adverse water quality from occurring.
- Helps to Restore Impaired Waters
  - Stormwater discharges are a primary cause of water quality impairment.
  - EPA's rule will help restore these impaired waters by establishing standards that must be met as redevelopment occurs and by promoting retrofits of stormwater practices that have not been effective in controlling discharges.
- Green infrastructure provides a cost-effective means of protecting water quality from stormwater discharges

Benefits of Stormwater Rule

- Cities will also realize other benefits from incorporating standards that promote green infrastructure. Green Infrastructure:
  - Reduces the amount of rainwater that enters sewer systems, thereby reducing overflows of raw or impartially treated wastewater
  - Increases job diversity by creating a demand for certified installers, operations and maintenance staff, and landscape architects
  - Creates more liveable communities by providing more trees, vegetation and open space
  - Mitigates urban heat Island effects
  - Reduces energy usage
  - Recharges goundwater and restores depleting groundwater supplies
  - Creates more habitat
  - Improves air quality
- Green infrastructure offers cities a holistic approach to solve many problems.
- EPA's stormwater rule will provide standards with appropriate flexibility so that states and cities can tailor solutions and take advantage of the benefits of green infrastructure in a way that best meets their needs.

Establish Standards for Discharges from Newly Developed and Redeveloped Sites

- Goal is to maintain or restore stable hydrology and water quality in receiving waters
- Standard could include:
  - On-site retention of a specific size storm event (e.g., 2 year, 24 hour storm)
  - Limits on the amount of impervious surfaces
  - Site-specific standards
    - EPA is developing a calculator that would allow a site to determine predevelopment hydrology for that particular site
  - Permit or state-specific standards (assumes permit or state specific standards are equally stringent as the national standard).

EPA will consider

- How the standard should differ for discharges from new development versus redevelopment, and, if so, how,
- Whether different standards are appropriate for different geographic areas and climates,
- What flexibility is needed to account for local variability, site constraints and water rights laws, and
- If unique standards should be developed for transportation?

To whom might the standards apply?

- To discharges from new development and redevelopment of a certain size
  - Discharges directly to waters of the U.S.
  - Discharges to waters of the U.S. via an MS4
- To regulated MS4s
- To regulated MS4s for discharges to MS4 system and to discharges that discharge directly to waters of the U.S.

West Virginia Example of Redevelopment Exceptions

New Development Standard: Keep and manage on site the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation.

- This first one inch of rainfall must be 100% managed with no discharge to surface waters, except when the project is eligible for a reduction based on the type of development (see redevelopment standard below) or when off-site mitigation or payment in lieu is used

Redevelopment standard:

A reduction of 0.2 inches from the one inch on-site retention standard may be applied for redevelopment projects. Additional 0.2 inch reductions (up to a maximum reduction of 0.75 inches) may be applied for:

- Brownfield redevelopment
- High density (>7 units per acre)
- Vertical Density, (Floor to Area Ratio (FAR) of 2 or >18 units per acre)
- Mixed use and Transit Oriented Development (within ½ mile of transit)

Expanding Number of Discharges Subject to Federal Requirements

- Phase II regulation applies to MS4s in urbanized areas
  - Urbanized areas cover 2% of total U.S. land area
  - Excludes many areas facing development pressure

Requiring MS4s to Develop Retrofit Requirements

- Stormwater discharges in developed areas are a significant contributor to water quality impairments.
- Additional stormwater controls for discharges from existing development, in the form of retrofits, may be needed to protect receiving waters.
- Currently, federal stormwater regulations for MS4s do not include specific retrofit requirements, although some permits include retrofit requirements in order to protect receiving water bodies.

Other Regulatory Options for Retrofit Requirement

- Requirement – MS4s must develop and implement a retrofit plan

- What could a municipal retrofit plan look like?
  - Identification of sensitive waters
  - Identification of stormwater contribution to degradation or impairment
  - Development of goals and milestones for reducing stormwater contributions
  - Identification of priority projects and initiatives to meet permit-term milestones including retrofits for public sites undergoing redevelopment or routine repair and maintenance
  - Development of incentives for retrofits on private property

- Who it could apply to?
  - Phase I MS4s
  - Phase I&II MS4s
  - Phase I & II MS4 that have waters impaired by stormwater

Examples of Retrofit Programs

- Portland, OR
  - Manage 56% of stormwater by 2040
- Milwaukee, WI
  - Reduce TSS by 40% by 2013 in MS4 areas
- Philadelphia, PA
  - Manage 34% of impervious cover over next 20 years
- NYC's Sustainable Stormwater Management Plan
  - Improve public access to tributaries by 90% by 2030 and detain or capture over 1 billion gallons of stormwater annually
- Use of Residual Designation Authority in the Charles River Watershed, MA
  - Reduce P annual discharge by 65%
- Washington DC
  - Using Green Build out Model to identify goals to reduce stormwater discharges to District's rivers

Specific Provisions for the Chesapeake Bay

- Over 64,000 square miles of land drain into the Chesapeake Bay or its tributaries
- Major urban areas include:
  - Baltimore, MD - DC
  - Harrisburg, PA - Annapolis, MD
  - Richmond, VA
  - Hampton Roads, VA (Norfolk-Virginia Beach)
- An Executive Order issued on May 12, 2009 requires, among other things, that EPA identify ways to strengthen stormwater management practices within the Bay watershed in order to restore and protect the Bay and its tributaries.
- EPA plans to include in this proposed rulemaking a separate section containing additional stormwater provisions for the Chesapeake Bay watershed

Examples of Potential Bay Specific Requirements

- Apply the post construction standard to smaller sized newly developed and redeveloped sites than covered by the national standard
- Expand the universe of regulated MS4 discharges beyond what would occur through national rulemaking
- Establish shorter time frames to implement retrofit requirements and establish retrofit requirements to large existing discharges that are causing water quality impairment
- Require MS4s to restrict the use of fertilizers and pesticides

Other Items

- Replace the SIC code system with the NAICS system to modernize the identification of industrial discharges covered by NPDES stormwater regulations.
- Clarifying industrial requirements and their application
- Consolidate MS4 requirements into one regulation.

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